Amendments to the Specification

Please make the following amendments to the specification as indicated in the below provided replacement paragraphs. Additions to the language have been underlined, and deletions have been struck-through.

Please amend the originally presented paragraph beginning on page 9, line 15 and ending on page 10, line 5 with the following replacement paragraph.

During operation, heat is efficiently transferred from the central aspect of the device, more particularly an integrated heater, or heat source 28, to the reaction zone 18 and fuel vaporizer, or vaporization zone 16 using thermal conductive channels, or vias, (discussed presently). In this particular embodiment, integrated heater 28 is described as a chemical heater, including a catalyst and arranged so as to oxidize fuel to produce heat, but it should be understood that the integration of an electrical heater is anticipated by this disclosure. Chemical heater 28 includes an air port 40 for providing oxygen for oxidation of fuel 24 and/or 26 and an inlet channel 20, for providing fuel 24 and/or 26 to heater 28.

A1

Please amend the originally presented paragraph beginning on page 11, line 1 and ending on page 11, line 13 with the following replacement paragraph.

A2

An efficient thermal insulator 36 is positioned about fuel reformer 14 to keep outer temperatures low for packaging and also to keep heat localized to the fuel reformer. In this

particular embodiment, the fuel processor operates at a temperature ranging from ambient to 300°C unless it is integrated with a high temperature fuel cell where the fuel processor operates in a range of 140-300°C. Fuel vaporizer zone 16 operates at a temperature ranging from 120-160°C and reaction zone 18 operates at a temperature ranging from 200-250°C. Additionally, in this particular embodiment of fuel processor ~~10~~ 14, included is an exhaust gas vent 38, for the venting of exhaust gases generated by device 10.

A2

Please amend the originally presented paragraph beginning on page 13, line 13 and ending on page 14, line 6 with the following replacement paragraph.

Referring now to FIG. 2, illustrated is a partial oxidation hydrogen generator according to the present invention, generally referenced 50. Partial oxidation reformer, or generator 50 provides for part of the fuel to be oxidized to provide energy for the reforming reaction within the fuel reformer. Direct heat transfer~~,~~ makes this reformer small, compact, light weight and dynamically responsive. Partial oxidation systems rely on the reaction of the feedstock in a limited supply of oxygen or air to prevent complete oxidation. Partial oxidation is an exothermic reaction and in this process, the temperature of the reformer can exceed 400°C. Control of the oxygen partial pressure is very critical. Partial oxidation is not typically used for methanol reformers, and is more commonly utilized in association with gasoline reformers for automotive applications where the temperatures can exceed 650°C.

A3

Please amend the originally presented paragraph beginning on page 14, line 7 and ending on page 14, line 18 with the following replacement paragraph.

As illustrated, hydrogen generator 50 includes a fuel 52, input through inlet 54, to a partial oxidation reactor 56. During operation, fuel 52, typically methanol, is first oxidized by a chemical heater or electrical igniter, 58 over a catalyst. Once the partial oxidation reaction starts, the heat generated will sustain the reaction. There is no need to provide additional heat as in the steam reformer described with reference to FIG. 1. During operation, the reaction needs to be controlled so that it does not proceed to complete oxidation. This is achieved by monitoring the oxygen partial pressure and temperature and by controlling the air intake 60 and fuel feed <u>or inlet</u> 54.

A1